



CHEMISTRY NMDCAT

(UNIT-13)

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TOPICS

✓ **ALKYL HALIDES**

✓ **ALCOHOLS AND PHENOLS**

Q.1 Double bond is formed when alkyl halide undergo

- a. Addition reactions
- b. Elimination reactions
- c. Substitution reactions
- d. Re-arrangement reactions

Q.2 The more stable leaving group is actually a _____

- a. Good leaving group
- b. poor leaving group
- c. Good electrophile
- d. Poor electrophile

Q.3 Bimolecular elimination reactions are favoured in the presence of

- a. Strong base
- b. Weak base
- c. Strong nucleophile
- d. Weak nucleophile

Q.4 Alkyl halides react with excess of ammonia to give

- a. 1°- amine
- b. 2°- amine
- c. 3°- amine
- d. All of these

Q.5 The common name of 2-Methyl-2-Chloropropane is

- a. Isobutyl chloride
- b. Secondary butyl chloride
- c. Tertiary butyl chloride
- d. n-butyl chloride

Q.6 In phenols hydroxyl group is attached to an / a _____ group

- a. Alkyl
- b. Vinyl
- c. Benzyl
- d. Aryl

Q.7 The compound which are not found naturally

- a. Alkenes
- b. Carbohydrates
- c. Fats
- d. Alkyl halides

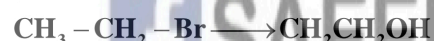
Q.8 Iodide ion is good nucleophile because of

- a. High polarizability
- b. Low polarizability
- c. High electronegativity
- d. Small size

Q.9 Which of the following alkyl halide is more reactive

- a. n-Propyl iodide
- b. n-Propyl bromide
- c. n-Propyl chloride
- d. n-Propyl fluoride

Q.10 The alkaline hydrolysis of bromoethane shown below gives alcohol as the product



The reagent and the condition used in this reaction may be

- a. H₂O at room temperature
- b. KOH is alcohol
- c. Ethanol, heat
- d. Dilute KOH_(aq), warm

Q.11 Consider the reaction given below:



I



II



which statement is true?

- a. Reagent for I is KOH in alcohol
b. Reagent for II is KOH in aqueous medium
c. Reaction II is elimination
d. Reaction I is debromination

Q.12 Which of the following is alkyl halide?

- a. $\text{CH}_3\text{CH}_2\text{Cl}$
b. $\text{ClCH}_2\text{CH}_2\text{Cl}$
c. CH_3CHCl_2
d. All of these

Q.13 Dehydrohalogenation is possible in

- a. $(\text{C}_6\text{H}_5)_3\text{CCl}$
b. CH_3Br
c. $(\text{CH}_3)_3\text{CCl}$
d. CHCl_3

Q.14 Which of the following alkyl halide easily undergoes $\text{S}_\text{N}1$ reaction

- a. Methyl chloride
b. Isobutyl chloride
c. Ethyl chloride
d. Ter-butyl chloride

Q.15 In $\text{S}_\text{N}1$ reactions, the 1st step is the formation of

- a. Free radical
b. Carbocation
c. Carbanion
d. Complex

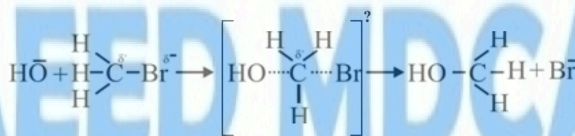
Q.16 If nucleophile attacks on α -carbon of alkyl halide molecule then which mechanism will be followed

- a. $\text{S}_\text{N}1$
b. $\text{S}_\text{N}2$
c. E1
d. E2

Q.17 $\text{S}_\text{N}1$ reaction takes place with

- a. 100% retention of configuration
b. 100% inversion of configuration
c. 50% retention and 50% inversion configuration
d. 25% retention and 75% inversion configuration

Q.18



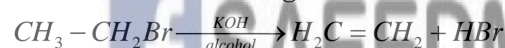
What is charge on the transition state?

- a. +2
b. +1
c. -1
d. -2

Q.19 During the $\text{S}_\text{N}1$ reaction, the fast reaction involves

- a. Breakage of covalent bond
b. Transition state
c. Formation of carbocation
d. Attack of nucleophile

Q.20 Consider the reaction given below:



Mechanism followed by the reaction is:

- a. E2
b. $\text{S}_\text{N}1$
c. E1
d. $\text{S}_\text{N}2$

Q.21 Alcohols can be classified into primary, secondary and tertiary alcohol, 3-pentanol is

- a. 3° alcohol
b. 1° alcohol



- c. 2° alcohol
d. Both a and c
- Q.22** Alcohols behave as weak acids. The acidic nature of alcohols is in the order
a. $1^\circ > 2^\circ > 3^\circ$
b. $2^\circ > 3^\circ > 1^\circ$
c. $3^\circ > 2^\circ > 1^\circ$
d. $3^\circ > 1^\circ > 2^\circ$
- Q.23** Hydrogen bonding is strongest in
a. C_4H_9OH
b. C_2H_5OH
c. C_3H_7OH
d. CH_3OH
- Q.24** An alcohol is converted into an aldehyde with same number of carbon atoms in the presence of K_2CrO_4/H_2SO_4 . the alcohol is
a. $(CH_3)_3COH$
b. $CH_3CH_2CH_2OH$
c. $(CH_3)_2CHOH$
d. All of these
- Q.25** Primary, secondary and tertiary alcohols can be identified and distinguished by
a. Lucas test
b. Bayer's test
c. Iodoform test
d. Silver mirror test
- Q.26** Absolute alcohol can be obtained from rectified spirit by dry distillation with
a. Conc. H_2SO_4
b. CaO
c. P_2O_5
d. $CaCl_2$
- Q.27** Which of the following reactions is used for the production of alcohols on industrial scale?
a. Hydrohalogenation of alkenes
b. Hydration of alkenes
c. Hydroxylation of alkenes
d. Hydrogenation of alkenes
- Q.28** Which of the following is most soluble in water
a. C_2H_5OH
b. C_4H_9OH
c. C_3H_7OH
d. $C_{10}H_{21}OH$
- Q.29** What is "B" in given sequence of reactions: $CH_3OH \xrightarrow[ZnCl_2]{HCl} A \xrightarrow{Aq.KOH} B$
a. CH_3Cl
b. CH_3OH
c. $CH_2 = CH_2$
d. CH_3OCH_3
- Q.30** Alcohol does not produce alkyl halide on reaction with
a. Cl_2
b. $SOCl_2$
c. $HCl / ZnCl_2$
d. PCl_5
- Q.31** Compound "A" reacts with PCl_5 to give "B" which on treatment with KCN followed by hydrolysis gave propanoic acid as the product. What is "A"?
a. Propyl alcohol
b. Ethyl chloride
c. Propane
d. Ethyl alcohol
- Q.32** When excess of C_2H_5OH is heated at $140^\circ C$ with conc. H_2SO_4 the compound obtained is
a. Diethyl ether
b. Dimethyl ether
c. Ethyl hydrogen sulphate
d. Ethylene
- Q.33** Which of the following gives positive Iodoform test
a. CH_3OH
b. $(CH_3)_3COH$
c. $(CH_3)_2CHOH$
d. C_3H_7OH
- Q.34** In alcohols, if reactions involve breaking of C—O bond, the order of reactivity is
a. $1^\circ > 2^\circ > 3^\circ$
b. $2^\circ > 3^\circ > 1^\circ$
c. $3^\circ > 2^\circ > 1^\circ$
d. $3^\circ > 1^\circ > 2^\circ$
- Q.35** The rate of esterification of alcohols is more for
a. CH_3OH
b. $(CH_3)_2CHOH$
c. C_2H_5OH
d. $(CH_3)_3COH$



Q.36 Oxidation of 2-Butanol gives

- a. 2- Butene
- c. Butanone

- b. Butyraldehyde
- d. Butyric acid

Q.37 The reaction of ethanol with Na metal is example of _____ reaction

- a. Nucleophilic substitution
- c. Nucleophilic addition

- b. Electrophilic substitution
- d. Electrophilic addition



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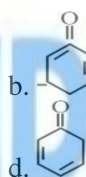
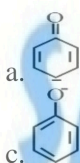
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- Q.38** How will you distinguish between methanol and ethanol?
- By Lucas test
 - By oxidation
 - By silver mirror test
 - By iodoform test
- Q.39** At 25°C 2-Hydroxybenzene-sulphonic acid is formed by the reaction of:
- (HNO₃+H₂SO₄) with benzene
 - NaOH with Benzene sulphonic acid
 - (HNO₃+H₂SO₄) with phenol
 - H₂SO₄ with phenol
- Q.40** Which can be used to distinguish between alcohol and phenol
- Sodium nitro prusside test
 - Reaction with sodium
 - Benedict solution
 - Bromine water
- Q.41** Phenol on hydrogenation in presence of nickel catalyst at high temperature gives
- Benzene
 - Cyclohexanol
 - Cyclohexane
 - n-Hexanol
- Q.42** Some of the antiseptic soaps are called carbolic soap. This name is due to presence of
- Phenol
 - Carbonic acid
 - Fatty acid
 - Alkali
- Q.43** The reaction of phenol with conc. HNO₃ gives
- Picric acid
 - Adipic acid
 - Benzoic acid
 - Salicylic acid
- Q.44** Phenol on reaction with bromine water gives
- o-Bromophenol
 - p-Bromophenol
 - m-Bromophenol
 - 2, 4, 6-Tribromophenol
- Q.45** Select the compound which is least acidic
- Carboxylic acid
 - Water
 - Phenol
 - Alcohol
- Q.46** Acidity of phenol is due to
- Benzene ring
 - Hydrogen bonding with water
 - Breakage of C-O bond
 - Resonance stabilization of its ion
- Q.47** Which of the following does not give effervescence with Na₂CO₃
- Benzoic acid
 - Phenol
 - Phthalic acid
 - Vinegar
- Q.48** Which of the following is not a correct resonance contributing structure of phenoxide ion



- Q.49** When ethanol is warmed with ethanoic acid in the presence of strong acid catalyst, an ester ethyl ethanoate is formed



During this reaction

- Alcohol is reduced
 - O-H bond in ethanol is broken
 - O-H bond in ethanoic acid is broken
 - Acid is oxidized
- Q.50** Which one the following compounds is known as tertiary alcohol?
- 2-Methyl-1-propanol
 - 2-Methyl-2-propanol
 - 2-Propanol
 - 1-Propanol



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Chem T-13

Chemistry unit # 13

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|--|-------|-------|-------|-------|
| 01- B | 11- C | 21- C | 31- D | 41- B |
| 02- A | 12- A | 22- A | 32- A | 42- A |
| 03- A | 13- C | 23- D | 33- C | 43- A |
| 04- D ^{but major} (A) | 14- D | 24- B | 34- C | 44- D |
| 05- C | 15- B | 25- A | 35- A | 45- D |
| 06- D | 16- B | 26- B | 36- C | 46- D |
| 07- D | 17- C | 27- B | 37- B | 47- B |
| 08- A | 18- C | 28- A | 38- D | 48- B |
| 09- A | 19- D | 29- B | 39- D | 49- B |
| 10- D | 20- A | 30- A | 40- D | 50- B |

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